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TITLE: Is Breast Tissue from Women Who Carry Germ-Line BRCA1 or BRCA2 Mutations "Normal"? - An Immuno-Histopathological Study

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13. ABSTRACT (Maximum 200 Words)

After review of 140 files,a total of 90 prevalent cases of breast cancer were recruited from both clinical genetic services at the Montreal Hospital sites. A total of 36 cases were examined by three separate blinded pathologists for certain morphological and histological features to be compared among carriers and non-carriers of the BRCA1/2 genes. The pre-cancerous features that we focused on included apocrine hyperplasia, sclerosing adenosis, columnar alteration with prominent apical snouts and secretions(CAPSS) and usual ductal hyperplasia.
We are now in the process of having the remaining 24 cases examined and reviewing the raw data to establish some results and conclusions. We hope to complete the examination of the remaining cases and the analysis of the raw data very shortly. Immunohistochemical analysis will follow.

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Table of Contents

Is breast tissue from women who carry germ-line *BRCA1* or *BRCA2* mutations "normal"?-An immuno-histopathological study.

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Introduction

In this study we were funded to perform an extensive morphological and immunohistochemical study of non-neoplastic breast tissue from the primary invasive cancer among women whose *BRCA1/2* status had already been established. We were also funded to compare morphological and biological features of breast tissue in *BRCA1* or *BRCA2* mutation carriers to age matched controls.

Task 1: Case ascertainment, contact, consent, acquiring pathology material, and review of tissue by pathologists, years 1-2.

- Obtained approval for this study at relevant IRB to start the project at the SMBD-Jewish General Hospital.
- All the prevalent cases were ascertained using records from the clinical genetic service at the SMBD-Jewish General Hospital. A total of 117 cases were ascertained.
- An introduction letter with a reply card was sent to the 117 prevalent cases that we wished to recruit from the SMBD-Jewish General Hospital. Once reply cards were received, a research assistant contacted the cases to obtain signed consent. A total of 61 women gave their signed consent. 15 women refused to participate in this study. 41 women did not reply at all to the letter and we were unable to contact them due to change of address, telephone number or messages were not returned.
- We submitted the study for ethical approval to recruit more cases at the Montreal General Hospital. This meant making some changes to the consent forms and this process took a little over three months to complete.
- A total of 29 cases were ascertained from the clinical genetic service at the Montreal General Hospital. Twenty-nine prevalent cases were contacted and a total of 29 women were recruited from the Montreal General Hospital site.

- Once consent was received the pathology material (breast tissue) for that case was ordered so that the morphological and immuno-histochemical examination could commence.
- Due to a limited availability of time by the pathologists co-investigating on this study, we submitted a no-cost extension and that was accepted in August, 2002 so that the study would not expire before important results could be obtained.
- A total of 36 cases were examined. 3 cases could not be reviewed completely due to missing blocks or slides. The pre-cancerous pathological features that we focused on included apocrine hyperplasia,sclerosing adenosis,columnar alteration with prominent apical snouts and secretions (CAPSS) and usual ductal hyperplasia.
- We are now in the process of having the remaining 24 cases examined and reviewing the raw data to establish some results and conclusions. We hope to complete the examination of the remaining cases and the analysis of the raw data very shortly. Immunohistochemical analysis will follow.

Key research accomplishments

- A total 90 cases were recruited from both clinical genetic services at the Montreal Hospital sites.
- 36 cases were examined by three separate blinded pathologists for key morphological and histological features.
- Data analysis is underway.

Reportable outcomes

1. Published work

Nil

2. Conclusions

At the present time we are commencing the analysis of the raw data obtained by the pathologists. The pathologists expect to be finished analyzing the remaining 24 cases in a short time. We will then combine the two data sets together for final statistical analysis. Immunohistochemical analyses will follow as soon as these initial analyses are complete.